

**REMARKS**

In the Notice of Non-Compliance mailed on July 26, 2005, the Examiner asserted the Response previously submitted by Applicants on May 9, 2005, was not fully responsive. Specifically, the Examiner, citing 37 C.F.R. § 1.111, asserted this Response was non-responsive because “Applicants fail[ed] to point out support for the amended limitations.” Furthermore, the Examiner stated the following: “Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure.” In support of this assertion, the Examiner cited to 37 C.F.R. §§ 1.121 and 41.37(c)(v).

Although Applicants’ review of the cited sections of the C.F.R. finds no regulatory support for the Examiner’s assertions, Applicants have elected to amend the claims to better clarify the scope of the claimed invention and, furthermore, to identify sections of the present application that support these claim amendments. To expedite this discussion, Applicants address below, in a broad sense, the over arching themes presented by the claim amendments.

In independent claims 1, 57, and 79, Applicants deleted the adjectival modifier “portable” that preceded the recitations “power source,” “programmable,” or “cooling unit.” Moreover, in these claims, as well as in independent claims 47, 68, and 87, Applicants added the recitation “in a portable unit.” As support for this recitation, Applicants respectfully direct the Examiner’s attention to FIGS. 1-5 of the present application. As an example of specific support, Applicants respectfully direct the Examiner’s attention to the paragraph beginning at line 16 on page 8 and continuing to line 5 of page 9 of the present application. In view of this disclosure, amongst other teachings in the specification, Applicants respectfully submit that the foregoing described claim amendments are fully supported.

Additionally, with respect to independent claims 1, 57, 79, and 87, Applicants have added subject matter regarding the claimed cooling units. Specifically, Applicants have amended the foregoing claims to present the following respective recitations:

Claim 1: “a cooling unit for recycling a cooling fluid through the cable and around a workpiece to cool the fluid-cooled induction heating cable;”

Claim 57: “wherein the cooling unit dissipates heat in the cooling fluid and wherein the cooling unit recycles the cooling fluid to cool the induction heating cable; “

Claim 79: “wherein the cooling unit recycles cooling fluid received from the fluid-cooled induction heating cable to return to the fluid-cooled induction heating cable;” and

Claim 87: “a cooling unit configured for fluid communication with the fluid-cooled induction heating cable, the cooling unit and fluid-induction heating cable cooperating to produce a closed loop for recycling cooling fluid.”

Respectfully, Applicants submit that support for these recitations can be found in Figure 4 and the corresponding text therefore. As a specific example, Applicants respectfully direct the Examiner’s attention to the paragraph beginning at line 21 on page 11 and continuing to line 14 on page 12. In view of this disclosure, Applicants respectfully submit that the above-listed claim recitations are fully supported by the specification.

Additionally, Applicants note that in claims 1, 47, 57, 68, 79, and 87 recitations relating to the conversion of incoming power to controlled frequency output power have been deleted. Accordingly, Applicants respectfully submit that a discussion regarding the location of support for these deleted recitations is no longer germane.

In summary, and in view of the discussions above, Applicants respectfully submit that the claims of the present application, including the claim amendments, are fully supported by the present application. Thus, Applicants respectfully request the Examiner enter this supplemental amendment and advance prosecution of the present application.

In the Office Action, claims 1-8, 47-55, and 57-94 were rejected. By the present response, Applicants have amended claims 1, 3, 47, 57, 58-60, 68, 77-79, 81, 82, 85, and 87, and cancelled claims 7, 63 and 88-90 without prejudice. Upon entry of the amendments, claims 1-6, 8, 47-55, 57-62, 64-87, and 91-94 will remain pending in the present patent application. In view of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration and allowance of all pending claims.

#### **Double Patenting Rejection**

In the Office Action, claims 1-8, 47-55, and 57-94 were rejected. By the present response, doctrine of obviousness-type double patenting as unpatentable over claims 1-42 of the Thomas et al. reference (U.S. Patent No. 6,727,483; hereinafter "Thomas"). Applicants, however, respectfully request that the Examiner hold this double-patenting rejection in abeyance until the allowability of the pending claims is finally determined. At such time, Applicants will strongly consider filing a terminal disclaimer to overcome the presented obviousness-type double patenting rejection, if it is maintained.

#### **Rejections Under Section 103**

In the Office Action, claims 1-8, 47-55, and 57-94 were rejected under 35 U.S.C. § 103 as obvious in view of the Henderson et al. reference (U.S. Patent No. 3,403,240; hereinafter "Henderson"), the Duncan reference (U.S. Patent No. 5,198,053; hereinafter "Duncan"), and the Antier et al. reference (U.S. Patent No. 4,058,696; hereinafter "Antier").

Applicants, however, respectfully assert that the pending claims are patentable over the cited references, whether taken alone or in combination, because these references do not disclose all of the features recited in these claims and, furthermore, because the requisite motivation for combination for a *prima facie* case of obviousness has not been presented. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must not only show that the combination or modification includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *See Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). Moreover, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination or modification. *See ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Indeed, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See In re Mills*, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990).

Additionally, objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references must be provided. *See In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Moreover, when prior art references require a selected combination or modification to render obvious a subsequent invention, there must be some reason for the combination or modification other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination or modification. *See Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). Indeed, the Federal Circuit has warned that

the Examiner must not “fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.” *See In re Dembiczak* 50 U.S.P.Q. 2d 52 (Fed. Cir.1999) (quoting *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir.1983)). Moreover, avoiding hindsight reconstruction is especially important regarding less technologically complex inventions, where the very ease which the invention can be understood may prompt one employ such hindsight. *See id.* Thus, “case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) (emphasis added).

With the foregoing in mind, Applicants respectfully assert that the pending claims are patentable for at least two reasons: 1) The cited references fail to disclose all of the features recited in the pending amended independent claims; and 2) the requisite motivation for combination to reach the pending claims with the cited references has not been established.

**The cited references do not disclose a recycling cooling unit.**

By way of example, Applicants respectfully submit that the cited references, whether taken alone or together, do not disclose “a cooling unit...for *recycling* a cooling fluid,” as is recited in claim 1, “a cooling unit...wherein the cooling unit dissipates heat in the cooling fluid and wherein the cooling unit *recycles* the fluid to cool the induction heating cable,” as is recited in amended independent claim 57, or “a cooling unit...wherein the cooling unit *recycles* cooling fluid received from the fluid-cooled induction heating cable for return to the fluid-cooled induction heating cable,” as is recited in amended independent claim 79 or “a cooling unit...[wherein] the cooling unit and fluid-cooled induction heating cable [cooperate] to produce a closed-loop for

*recycling* cooling fluid,” as is recited in claim 87. (Emphasis added.) In contrast, Henderson— which is the reference the Examiner relies on for disclosure related to a cooling unit (*see* Office Action mailed February 9, 2005, p.3)— discloses a brazing station in which cooling water is “supplied to and from the work unit respectively by incoming line 26 and drain line 28.” *See* Henderson, col. 2, ll. 29-32. As is best illustrated in FIG. 2 of Henderson, input and output lines 26 and 28, respectively, lead away from the brazing assembly 10, indicating the necessity of an *independent water supply* and, thus, an inability of the brazing assembly 10 to recycle cooling fluid. This inability to recycle cooling fluid is evidenced by the fact that the cooling water within the assembly is described as being at “normal main pressure.” *See id.* at col. 3, ll. 50-52. Moreover, this assertion is buttressed by the fact that Henderson requires its described brazing apparatus 10 as having “intake and exhaust manifolds adapted for *detachable* connection respectively to a *source of cooling water under pressure* and a drained means.” *See id.* at col. 4, ll. 48-52.

As a practical matter, Applicants respectfully submit that an assembly as Henderson describes presents deficiencies in comparison to one having a *recyclable* capability. For instance, the Henderson device, because it requires an independent water source, is limited to use in environments having an accessible supply. Thus, if a constant pressurized supply is not available at a worksite location, the assembly of Henderson is unemployable. By contrast, maintaining a reservoir through which recycling of cooling fluid can occur, a device may be placed and operated at a location where independently pressurized fluid is not readily available, a decided advantage.

Thus, Applicants respectfully submit that the cited references, taken alone or together, do not support a *prima facie* case of obviousness with respect to the pending claims. In view of the foregoing, Applicants respectfully request reconsideration and allowance of the above listed claims.

**The cited references do not disclose a power source and a programmable power source controller in a portable unit.**

Additionally, the cited references do not disclose an induction heating system having, in a portable unit, a power source and a programmable power source controller, as are recited in amended independent claims 1, 47, 57, 68, and 87. Rather, in the Duncan device—which, as discussed above, the Examiner relies on for disclosure related to a programmable controller—the purported programmable controller is not portable, let alone in a portable unit with the power source. The power source of the induction unit 9 of Duncan is controlled by a computer 27 that “may take the form of a PC/AT or the like.” *See* Duncan, col. 7, ll. 50-52 (emphasis added). This computer 27 employs tailored software to generate a control signal used to control the induction unit. As an intermediary between the computer 27 and the induction device 9, Duncan employs a control computer 30, which controls the power output of the induction unit 9 in response to commands from the separate computer 27. *See id.* at col. 7, ll. 56-60. However, as best illustrated in Fig. 3 of Duncan, the computer 27 (also identified by Duncan by reference numeral 29) is separate from the induction unit 9 and, as such, the control computer 30. In summary, the computer 27 with the program is separate from control computer 30 local to the induction unit 9. Recalling that the computer 27 of Duncan on which the “software” is resident is a standard PC/AT, Applicants respectfully assert that this computer 27 is not portable. Moreover, as computer 27 is separate from the induction unit, Applicants respectfully assert that the computer 29 and the induction unit 9 cannot be equated with the power source and power source controller that are “in a portable unit,” as recited in the instant claims. Indeed, nothing in Duncan suggests that computer 29 is capable of programmed control. Rather, computer 29 unintelligently reacts to control signals from the separate computer 27.

**The cited references do not disclose a cart operable to transport both the power source and the power source controller.**

Applicants also respectfully assert that the cited references do not disclose a cart for transporting both the power source and programmable power source controller as recited in amended independent claims 47, 68, and 87. Instead, as discussed above, Duncan discloses a computer 27, which has resident software, that is separate from the induction unit 9 and that is not portable. As such, Applicants respectfully assert that Duncan cannot be said to disclose a cart, let alone a cart that is operable to transport both the power source and the power source controller. Again, Applicants respectfully assert that Duncan teaches a programmed computer 27 that is wholly separate from the induction unit 9 and that is not portable. Moreover, nothing in Henderson or Antier is capable of obviating this deficiency of Duncan. Indeed, Henderson does not disclose any sort of a programmable controller, let alone a cart for the programmable controller, and Antier also does not disclose any semblance of a cart or a programmable controller that is portable.

**The cited references lack the requisite motivation for combination.**

Even assuming, *arguendo*, that the cited references did disclose all of the recited features of the pending claims, Applicants respectfully assert that objective evidence supporting the obviousness of making the reference combination has not been presented. Applicants again respectfully assert that the mere fact that references can be combined does not objectively demonstrate that the references would obviously be combined by one of ordinary skill in the art to reach the given claims. With specific reference to the present case, Applicants respectfully assert that the presented motivation for combination: “it is contemplated with [the] ambit of ordinary skill artisan [*sic*] to automate a manual control device of Henderson when technology is available to improve quality,” merely retrospectively identifies what is taught by Applicants. In other words, Applicants



respectfully assert that the Examiner has not presented objective evidence that demonstrates that the cited references would be obviously combined to reach the instant claims. Instead, the Examiner has relied on Applicants' specification as a road map to combine and apply the cited references. Applicants respectfully submit that such use of impermissible hindsight construction is not appropriate.

**Conclusion**

All of the claims pending in the application are thus believed to be clearly patentable over the prior art of record, and their reconsideration and allowance are requested at the Examiner's earliest convenience. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



Date: August 26, 2005

---

Manish Vyas  
Reg. No. 54,516  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281): 970-4545